

PATENT

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Claims:

1. An apparatus comprising:
 - a) a substrate support;
 - b) a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses; and
 - c) a second edge ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the first edge ring.
2. The apparatus of claim 1 wherein the first edge ring includes one or more slots disposed for mating engagement with the one or more tapered pins on the second edge ring.
3. The apparatus of claim 1 wherein the first edge ring comprises a purge ring.
4. The apparatus of claim 1 wherein the second edge ring comprises a shadow ring.
5. The apparatus of claim 1 wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, and wherein the second edge ring includes two tapered pins diametrically positioned for mating engagement with the recess and the slot.
6. The apparatus of claim 1 wherein the substrate support comprises a purge gas channel, and the first edge ring comprises a purge ring.
7. An apparatus for processing substrates, comprising:
 - a) a chamber;
 - b) a substrate support disposed in the chamber;
 - c) a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses; and

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d) a second edge ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the first edge ring.

8. The apparatus of claim 7, further comprising:

e) a chamber body ring disposed on an interior surface of the chamber, the chamber body ring having one or more recesses for supporting engagement with the second edge ring.

9. The apparatus of claim 8 wherein the first edge ring includes one or more slots disposed for mating engagement with the one or more tapered pins on the second edge ring.

10. The apparatus of claim 8 wherein the first edge ring comprises a purge ring.

11. The apparatus of claim 8 wherein the second edge ring comprises a shadow ring.

12. The apparatus of claim 8 wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, and wherein the second edge ring includes two tapered pins diametrically positioned for mating engagement with the recess and the slot.

13. The apparatus of claim 8 wherein the substrate support comprises a purge gas channel, and the first edge ring comprises a purge ring.

14. The apparatus of claim 8 wherein the one or more recesses on the chamber body ring include tapered side surfaces.

15. A method for supporting a substrate in a chamber, comprising:

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a) positioning the substrate on a substrate support having a first edge ring disposed around a substrate supporting surface, the first edge ring having one or more recesses; and

b) positioning a second edge ring above the first edge ring, wherein the second edge ring include one or more pins for mating engagement with the one or more recesses on the first edge ring.

16. The method of claim 15 wherein the first edge ring includes one or more slots disposed for mating engagement with the one or more tapered pins on the second edge ring.

17. The method of claim 15 wherein the first edge ring comprises a purge ring.

18. The method of claim 15 wherein the second edge ring comprises a shadow ring.

19. The method of claim 15 wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, and wherein the second edge ring includes two tapered pins diametrically positioned for mating engagement with the recess and the slot.

20. The method of claim 15, further comprising:

c) flowing a purge gas around the substrate during substrate processing.